REMARKS

I. Introduction

In response to the Office Action dated January 7, 2008, claims 10, 28 and 46 have been canceled, and claims 1, 14, 16, 18, 19, 32, 34, 36, 37, 50, 52 and 54 have been amended. Claims 1-9, 11-27, 29-45 and 47-54 remain in the application. Re-examination and re-consideration of the application, as amended, is requested.

II. Request for Information

In section (1) of the Office Action, a Request for Information was made under 37 C.F.R. §1.105 regarding the equations found in claims 11-18, 29-36 and 47-54.

Applicant's attorney made inquiries of the Applicant in this regard. Applicant gave the Request due consideration and also consulted with other employees of the Assignee who worked on this project, which was known as the LTV (Life-Time Value) system. Applicant responded as follows:

- These claims recite NPV (Net Present Value), which is a well known term in the art. This term may be found, for example, in textbooks or as functions used in MICROSOFT EXCEL.
- Applicant cited the description found in the "Help" function provided for MICROSOFT EXCEL.
- Applicant's attorney provides herewith print-outs from the "Help" pages from the MICROSOFT EXCEL web page describing the NPV, as well as FV (Future Value), PV (Present Value), and PPMT (Principal PayMenT) functions therein (from the MICROSOFT EXCEL web page, select Functions Reference, then Financial, then FV/PV/NPV/PPMT).

Specifically, the equations found in 11-18, 29-36 and 47-54 were all derived using the information above, based on ideas and concepts that originated with the Applicant and other employees of the assignee during the development of the LTV system.

III. Non-Art Objections

In section (2) of the Office Action, claims 14, 16, 32, 34, 50 and 52 were objected due to certain informalities.

Applicant's attorney has amended these claims to overcome the objections.

IV. Non-Art Rejections

In section (3) of the Office Action, claims 18, 36 and 54 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite.

Applicant's attorney has amended these claims to overcome the rejections.

V. Prior Art Rejections

In section (4) of the Office Action, claims 1, 3-5, 7, 19, 21-23, 25, 37, 39-41 were rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 7,082,411 (Johnson). In section (5) of the Office Action, claims 2, 10, 20, 28, 38 and 46 were rejected under 35 U.S.C. §103(a) as being obvious in view of the combination of U.S. Patent No. 7,082,411 (Johnson) and U.S. Patent No. 5,812,988 (Sandretto). In section (6) of the Office Action, claims 6, 24 and 42 were rejected under 35 U.S.C. §103(a) as being obvious in view of the combination of U.S. Patent No. 7,082,411 (Johnson) and U.S. Patent No. 5,852,811 (Atkins). In section (7) of the Office Action, claims 8-9, 11-17, 26-27, 29-35, 44-45 and 47-53 were rejected under 35 U.S.C. §103(a) as being obvious in view of the combination of U.S. Patent No. 7,082,411 (Johnson) and "Fundamentals of Financial Management" (Kuhlemeyer).

However, in section (8) of the Office Action, claims 18, 26 and 54 were indicated as being allowable if rewritten in independent form to include the base claim and any intervening claims, and if rewritten to overcome the rejections under 35 U.S.C. §112, second paragraph.

Applicant's attorney acknowledges the indication of allowable claims, but respectfully traverses the rejections. Specifically, Applicant's attorney submits that the combination of Johnson and Sandretto does not teach or suggest all of the various elements of Applicant's amended independent claims.

Nonetheless, the Office Action asserts the following:

> 4. Claims 1, 3-5, 7, 19, 21-23, 25, 37, 39-41 and 43 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent Number 7,082,411 to Johnson et al (hereinafter Johnson).
>
> As per claims 1, 19 and 37
>
> Johnson discloses selecting accounts, amounts and rates (asset data) from account data stored in a database using selection criteria specified by one or more

> rules (column 4, lines 10-19) and performing one or more Net Present Value (NPV) calculations on the selected accounts by applying one or more NPV attrition rules (discount factor) to the selected accounts using the selected amounts and rates, wherein the NPV calculations determine a present value of an expected profitability value (score) of current products (column 9, lines 3-26).
>
> Examiner notes that applicant's specification conceptually defines attrition rates as "the rate at which a cash flow will be decreased" (page 8, lines 25-26). Johnson teaches a discount factor. One skilled in the art at the time the invention was made would understand that a discount factor is a rate used to discount or decrease future cash flow to obtain a net present value (NPV).

The Office Action also asserts the following:

> As per claims 10,28 and 46
>
> Johnson discloses matching the NPV attrition rule against the selected accounts (column 4, lines 10-15 and column 9, lines 3-11) and calculating an NPV expected value using the effective attrition rate (column 9, lines 3-11). Examiner notes that Johnson further discloses assessing asset and respective data using an iterative and adaptive process (column 4, lines 10-13).
>
> Johnson does not specifically teach matching the matched accounts to results of NPV forecast rules, obtaining an attrition rate for the matched accounts, calculating an effective attrition rate for each forecast period, performing the NPV attrition rule to calculate an NPV expected value using the effective attrition rate and storing the NPV expected value.
>
> Sandretto teaches matching the matched accounts to results of NPV forecast rules (column 8, lines 65-67), obtaining an attrition rate for the matched accounts (column 9, lines 2-7), calculating an effective attrition rate (column 9, lines 2-9) for each forecast period (column 10, lines 1-7), performing the NPV attrition rule (column 9, lines 2-9) and storing the NPV expected value (column 23, lines 25-26 and column 24, lines 17-23).
>
> Therefore it would have been obvious to one skilled in the art at the time the invention was made to incorporate the process of matching the matched accounts to results of NPV forecast rules, obtaining an attrition rate for the matched accounts, calculating an effective attrition rate for each forecast period, performing the NPV attrition rule to calculate an NPV expected value using the effective attrition rate and storing the NPV expected value as taught by Sandretto to account for both the increases and decreases of value needed to more accurately estimate future value based upon the iterative and adaptive process disclosed by Johnson.

Applicant's attorney respectfully disagrees with this analysis. As noted above, Applicants' independent claims 1, 19 and 37 have been amended to incorporate the elements of dependent claims 10, 28 and 46, respectively. As amended, Applicants' independent claims 1, 19 and 37 are patentable over the references.

Consider, for example, the portions of the Johnson and Sandretto references cited by the Office Action, which are set forth below:

Johnson: column 4, lines 10-19

Individual asset data (not shown) for each asset in portfolio 12 is entered into a database 76 from which selected data 78 is retrieved based on a given criteria 80 for the iterative and adaptive process 32. When criteria 80 is established for valuation of any asset, that established criteria 80 is stored in database 76 for use in valuating other asset data in database 76 which shares such an established criteria. Iterative and adaptive valuation process 32 thus develops 82 valuations (described below) and groups 84 them for use in bidding.

Johnson: column 8, lines 25-26

Cluster Number	Cluster Name	High	Exp	Low	Time	Valuative Confidence	High	Exp	Low	Time
1	Lien positions-recourse	.85	.62	.15	3	.3	(.3/1.65)(.85)	(.3/1.65)(.62)	(.3/1.65)(.15)	(.3/1.65)(3)
2	Asset classification-industry-age	.45	.4	.31	3	.7	(.7/1.65)(.45)	(.7/1.65)(.4)	(.7/1.65)(.31)	(.7/1.65)(3)
3	Coordinated-use-borrower	.9	.5	.2	.2	.65	(.65/1.65)(.9)	(.65/1.65)(.5)	(.65/1.54)(.2)	(.65/1.65)(2)
n	x									
						1.65	.6000	.4792	.2374	2.6050

Johnson: column 9, lines 3-26

In general, NPV is defined as:

$$NPV = c_0 + \frac{c_1}{1+r}$$

where C.sub.0 is the investment at time 0, C.sub.1 is the expected payoff at time 1, and r is the discount factor. The basic idea is that a dollar today is worth more than a dollar tomorrow.

In the case of insurance policies, NPV is defined as:

$$NPV = \sum P - \sum E - (\sum C) \times \frac{A}{E_w}$$

where P is the premium, E is the expected nominal cost, and C is the claim cost. In essence, Equation B is how net income as the difference of profit and weighted expected risk is generated. Note that the summation is summing across all the policies in a specific segment. Also note that all the premium, nominal cost, and claim cost have been discounted before entering the equation. As a result, a profitability score is generated.

Sandretto: column 8, line 60 – column 9, line 19

It is another object of the present invention to provide a method and apparatus for creating a portfolio by: (1) estimating an initial set of cash flows for each asset in a set of two or more assets using known or conventional methods; (2) generate additional estimated cash flows based upon different estimates for

one or more economic variables; (3) adjust the original set of cash flows and each additional set of cash flows for expected inflation; (4) determine an initial input risk measure for each asset based on a risk-return type asset pricing model; (5) determine an initial discount rate for each asset using the initial input risk measure for each asset and using different economic variables that relate to each set of cash flows (for example, the risk-free rate and the market risk premium which are typically different for each set of cash flows); (6) discount the inflation-adjusted cash flows at the discount rate to determine a present value for each set of cash flows; (7) use the present values to determine simulated returns for each asset; (8) use the simulated returns for each asset to determine at least one simulated market index return; (9) regress simulated asset returns against simulated market returns or else use division to determine an output risk measure for each asset; (10) use the resulting output risk measure for each asset to estimate a new input risk measure and; (11) repeats steps 1 through 10 (or 4 through 10 in some implementations) in an iterative process until, for each asset, the output risk measure approximates to within desired accuracy the input risk measure used to determine the most recently iterated discount rate.

<u>Sandretto: column 10, lines 1-7</u>

The process begins by estimating an initial set of financial statements and cash flows for each asset (only cash flows if the asset is a bond or similar asset) for some number of periods using estimated operating, financing, accounting and economic variables an analyst has input into the process. Estimated cash flows may be also be adjusted for expected price changes, such as inflation.

<u>Sandretto: column 23, lines 25-42</u>

The 0-n NPVs from Block 380 are used to determine 1-n simulated returns which are stored in Block 390. As illustrated in Block 390, RETURN 1 for ASSET 1 is determined by dividing NPV 1 from Block 380 by NPV 0 from Step 380 and subtracting 1. The last return, RETURN n, is determined by dividing NPV n in Block 380 by NPV 0 in Block 380 and subtracting 1. The other returns corresponding to ASSET 1 are determined in a similar manner and stored in Block 390. According to an alternative embodiment of the invention, the returns may be determined differently, such that RETURN n in Block 390 could be determined by dividing NPV n in Block 380 by NPV n-1, in Block 380 and subtracting 1. Similar to Blocks 380, 410 and 440, Blocks 390, 420 and 450 may be implemented as a two-dimensional matrix with one dimension corresponding to the number of assets and the second dimension corresponding to the number of additio2nal estimates of economic variables (total sets of economic estimates minus one).

<u>Sandretto: column 24, lines 17-39</u>

The output risk measures .beta. for ASSET 1 through ASSET i which are determined as part of the process of the present invention are stored respectively in Blocks 480 through 500 and are used to determine new input risk measures .beta. which will be used to determine new NPVs for each of the assets which will

then be stored back in Blocks 380, 410, and 440, and a new set of index NPVs to be stored in Block 460. That is, the output risk measure .beta. stored in Block 480 is used to determine a new input risk measure .beta. for use to determine a new set of NPVs for ASSET 1 which will be stored in Block 380. Typically, the output risk measure .beta. stored in Block 480 will be combined with the previous risk measure .beta. (used to determine the previous set of NPVs of Block 380), so that the process may determine a revised NPV 0, and NPV 1 through NPV n for ASSET 1. Similarly, the output risk measure .beta. for ASSET 2 in Block 490 is used, in combination with the previous risk measure .beta. for ASSET 2, to determine a revised NPV 0, and NPV 1 through NPV n for ASSET 2 which will be stored in Block 410; the output risk measure .beta. from Block 500 is used, in combination with the previous risk measure .beta. for ASSET i, to determine a revised NPV 0, and NPV 1 through NPV n for ASSET i which will be stored in Block 440.

Johnson merely describes a method of valuation of large groups of assets by partial full underwriting, partial sample underwriting and inferred values of the remainder using an iterative and adaptive statistical evaluation of all assets and statistical inferences drawn from the evaluation and applied to generate inferred values. Individual asset values are developed and listed in tables so that individual asset values can be taken and quickly grouped in any desired or prescribed manner for bidding purposes. The assets are collected into a database, divided by credit variable, subdivided by ratings as to those variables and then rated individually. The assets are then regrouped according to a bidding grouping and a collective valuation established by cumulating the individual valuations.

The above portions of Johnson cited by the Office Action merely refer to establishing valuations of assets using a general definition of NPV (Net Present Value). However, as admitted by the Office Action, nowhere do the above portions of Johnson refer to matching the matched accounts to results of NPV forecast rules, obtaining an attrition rate for the matched accounts, calculating an effective attrition rate for each forecast period, performing the NPV attrition rule to calculate an NPV expected value using the effective attrition rate and storing the NPV expected value.

Nonetheless, the Office Action cites Sandretto as teaching these elements of Applicants' claims. However, at the indicated locations, Sandretto merely describes creating a portfolio by: (1) estimating an initial set of cash flows for each asset in a set of two or more assets using known or conventional methods; (2) generating additional estimated cash flows based upon different estimates for one or more economic variables; (3) adjusting the original set of cash

flows and each additional set of cash flows for expected inflation; (4) determining an initial input risk measure for each asset based on a risk-return type asset pricing model; (5) determining an initial discount rate for each asset using the initial input risk measure for each asset and using different economic variables that relate to each set of cash flows (for example, the risk-free rate and the market risk premium which are typically different for each set of cash flows); (6) discounting the inflation-adjusted cash flows at the discount rate to determine a present value for each set of cash flows; (7) using the present values to determine simulated returns for each asset; (8) using the simulated returns for each asset to determine at least one simulated market index return; (9) regressing simulated asset returns against simulated market returns or else use division to determine an output risk measure for each asset; (10) using the resulting output risk measure for each asset to estimate a new input risk measure and; (11) repeating steps 1 through 10 (or 4 through 10) in an iterative process until, for each asset, the output risk measure approximates to within desired accuracy the input risk measure used to determine the most recently iterated discount rate.

Specifically, the above portions of Sandretto cited by the Office Action refer to determining present values for the cash flows of assets, in the context of a method for estimating an asset's risk and net present value. However, Sandretto does not determine these values in the manner recited in Applicant's independent claims. Indeed, the portions of Sandretto cited against Applicant's dependent claims 10, 28 and 46, now incorporated into Applicant's independent claims 1, 19 and 37, do not teach or suggest NPV attrition rules, forecast rules, attrition rates, effective attrition rates, or the specific steps or functions performed by Applicant's claims. Instead, Sandretto merely refers to estimating discount rates by calculating risk measures, which are used to discount projected cash flows.

The remaining references, namely Atkins and Kuhlemeyer, fail to overcome these deficiencies of Johnson and Sandretto. Recall that these references were cited only against dependent claims 6, 8-9, 11-17, 24, 26-27, 29-35, 42, 44-45, and 47-53, and were cited only for containing limitations shown in those dependent claims.

Consequently, the various elements of Applicant's claimed invention together provide operational advantages over Johnson, Sandretto, Atkins, and Kuhlemeyer. In addition, Applicant's invention solves problems not recognized by Johnson, Sandretto, Atkins, and Kuhlemeyer.

Thus, Applicant's attorney submits that independent claims 1, 19, and 37 are allowable over Johnson, Sandretto, Atkins, and Kuhlemeyer. Further, dependent claims 2-9, 11-18, 20-27, 29-36, 38-45 and 47-54 are submitted to be allowable over Johnson, Sandretto, Atkins, and Kuhlemeyer in the same manner, because they are dependent on independent claims 1, 19, and 37, respectively, and thus contain all the limitations of the independent claims. In addition, dependent claims 2-9, 11-18, 20-27, 29-36, 38-45 and 47-54 recite additional novel elements not shown by Johnson, Sandretto, Atkins, and Kuhlemeyer.

VI. Conclusion

In view of the above, it is submitted that this application is now in good order for allowance and such allowance is respectfully solicited.

Should the Examiner believe minor matters still remain that can be resolved in a telephone interview, the Examiner is urged to call Applicant's undersigned attorney.

Respectfully submitted,

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